To the FCC Commissioners:

Thank you for the opportunity to respond to the Notice of Proposed Rulemaking (ET Docket No. 04-37) concerning proposed changes to Part 15 rules affecting Access Broadband over Power Line systems. I have been an electrical engineer with a large automotive company for 24 years and an amateur radio operator for 11 years, I have held an Amateur Extra Class license since June 21, 2000, and I am active in the Amateur Radio Emergency Service (ARES), which is affiliated with the American Radio Relay League and have worked in regional Emergency Operations Centers during actual Hurricane related emergencies utilizing both HF and VHF communications.

The Commission has clearly and publicly embraced the concept of widespread deployment of Access BPL as potentially beneficial to the general public. The commission has acknowledged the potential for harmful interference that Access BPL could create to existing licensed services using the 2 MHz to 80 MHz HF/low-VHF frequency spectrums. It has also affirmed its obligation to prevent such interference or providing the means to eliminate it should it occur. With that as its principal objective, I would like to make the following specific comments regarding the NPRM:

(1) Many civilian government agencies (federal, state, and local), many military operations, and many private sector individuals and entities are now licensed users of the 2 MHz to 80 MHz spectrum. A large numbers of the above licensed users have previously filed comments with the Commission expressing their concerns about potential BPL interference problems, emphasizing the need to be absolutely protected from disruption due to BPL-generated harmful interference. This unusually large volume of comments clearly indicates a need for the Commission to exercise extreme care in crafting any final rules changes concerning BPL operations in order to protect other licensed services. It should be of great concern to the Commission the possible effect that Access BPL could have on our ability for the agencies of this country to collect Communications Intelligence (COMIT) and Electronic Intelligence (ELINT). With the current Congressional investigation of our ability to provide intelligence that would protect this country it would be amiss for the FCC to enact a rule that could hamper the effective collection of intelligence that could enhance our country’s security.
Additionally these afore mentioned agencies and private sector individuals are the backbone of the communications network that is utilized in an emergency or natural disaster situation. In an emergency situation interference from Access BPL could effectively shut down these critical communications in the area affected by the emergency and communications into and out of that area.

(2) Licensed services, including Amateur radio and others, using HF and low-VHF frequencies often involve weak received signals that would likely be totally masked as a result of harmful interference that BPL might create, thereby making communications impossible in many cases. Under the current Part 15 device emission levels there have been many cases of interference recorded. Any increase in the emission power levels would create an increase of interference cases. The standards for defining harmful BPL interference must take into account these weak signal-operating conditions.

(3) Many licensed HF and low-VHF services involve the use of directional antenna arrays in order to sustain effective communications. Suggesting that these antennas could simply be pointed away from overhead power lines to reduce Access BPL-generated interference is neither a practical nor a realistic alternative and negates the purpose of utilizing directional antennas.

Maintaining communications requires that these antennas remain free to be pointed in the direction of any other station, whatever that direction might be. Any requirement to restrict the use of directional antennas by licensed services would effectively subordinate these services to Access BPL, and would be contrary to the Commission's obligation to protect other licensed services from BPL interference. Protection does not mean minimizing harmful BPL interference, it means preventing it altogether.

(4) Access BPL systems will use unshielded conductors (i.e., overhead power lines) to transmit broadband data. These power lines clearly represent antennas that will radiate RF energy. However, these same conductors will also be capable of receiving RF energy radiated by other currently licensed users of the same HF frequency spectrum, which could disrupt delivery of Access BPL service. If that Happens, Access BPL service providers might try to assert that these other licensed services should be considered as interfering with their BPL service, and this could lead to prolonged and unnecessary legal conflicts. The rules changes must be crafted in such a way as to prohibit judicial resolution of harmful interference claims. A rational solution would be to require that prior to entering into any contract for BPL service, BPL service providers obtain a written acknowledgement from each of their customers that: (a) other federally licensed services using the same frequency spectrum radiate energy that could disrupt BPL service, (b) any harmful interference to other licensed services caused by BPL will result in cessation of BPL service, (c) delivery of uninterrupted BPL service cannot not be guaranteed, and (d) other licensed users of the same frequencies, when operating in full compliance with their respective license privileges, cannot be held liable for BPL service interruption. Unless BPL service customers are fully informed of potential interference issues before they enter into service contracts, BPL service providers expose themselves and other licensed services to unwarranted and unnecessary confrontations.

(5) The Commission's proposed rules changes do not appear to have addressed the issue of harmful BPL-generated interference to mobile radio communications. Mobile radio communications are often critical during public service and emergency situations and must not be exposed to disruption from BPL Interference. David Hallidy, an amateur Operator N2DH, of Rochester, NY concerning the test Installation of BPL in Penn Yan, New York, records an example of this interference in a complaint to the FCC. Please make certain this important issue is fully evaluated before
Adopting any final rules changes.

(6) Any changes to Part 15 rules that would establish standards for Access BPL service, and be intended to prevent harmful interference from Access BPL systems, must be based on objective and accurate technical analyses. This would include field tests made under normal operating conditions in areas where other licensed services are co-located and operating. Before adopting any final rules changes, please make sure you obtain and evaluate the results of all observations and field tests that have already been made by various competent organizations. Rules changes this important must not be based on presumptions or assertions that do not reflect actual operating conditions.

(7) The nation's electric power transmission systems were neither designed nor intended to be a carrier of radio frequency information using the 2 MHz to 80 MHz spectrum. Therefore, it is important that the convenient availability of these
systems not result in the unintended consequence of producing harmful interference to other licensed services. Other means of delivering broadband data (such as fiber-optic cable, DSL, and wireless communications) might be more

effective and less expensive in many locations, and would not be a potential source of harmful interference.

(8) Paragraph 39 of the NPRM states that Access BPL operations . . . .must cease if harmful interference to other licensed services is caused.. Paragraph 42 of the NPRM also mentions the availability of a shut-down feature that might be built in to BPL service lines to facilitate cessation of transmission. What is not clear is the specific process for reporting the interference and enforcing the cessation, or how long a delay is permissible between submittal of a harmful interference report and BPL service cessation. These process elements are critical to ensuring a timely cessation of BPL service upon receipt of a harmful interference report. The cessation must be absolute and be immediate.

(9) The language in Paragraph 42 of the NPRM is of particular concern. The Commission invites comment regarding the following two questions: (a) what is the appropriate period of time that should be given BPL providers to come into compliance with rules changes, and (b) whether Access BPL systems currently deployed should be required to comply with rules changes at all. Essentially, this is asking how long harmful BPL interference to other services should be allowed to continue before it is eliminated. Does the Commission contemplate permitting harmful interference to continue for extended periods while the interference mitigation process slowly works its way toward conclusion? And, does the Commission also contemplate permitting existing Access BPL systems to permanently produce interference by essentially exempting them from compliance with the rules changes? If the Commission were truly committed to the prevention of harmful BPL interference to other licensed services, why would it permit interference of this kind to continue under any circumstances?

(10) The NPRM does not include any penalties whatsoever for violation of the proposed BPL operating rules. This is an alarming omission. The significance of any rules can be measured by the significance of the penalty for non-compliance with them. There should be some clear understanding of the substantial risk of non-compliance as a means to enforce compliance. Without that, the rules would have no teeth in them, and those who might produce harmful interference would have no incentive to eliminate it. Past experience in resolving interference to licensed services caused by power line radiation have often been difficult to resolve and have required action by the FCC enforcement division.

The HF and low-VHF spectrum now used by government agencies, tens of thousands of U.S. amateur radio operators, and many other licensed services must be totally protected by the Commission from any harmful interference that BPL could cause. Rules changes that would result in these existing services having to accept and endure BPL-generated interference simply to facilitate the perceived benefits that might result from widespread deployment of BPL technology cannot be considered reasonable.
The Commission must be absolutely certain that any rules changes it adopts will ensure that BPL services can co-exist in an environment with other licensed HF/low-VHF communications services without creating any harmful interference. And, it must ensure that when any incident of harmful BPL interference is reported, the applicable BPL service is immediately ceased until the interference can be eliminated. Any action that does not meet these fundamental criteria is, in my opinion, contrary to the best interests of the public.

Thank you.

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